

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10-15, 32, and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claims 10 and 11. The phrase "the extension limiting means" recited in line 2 of the claims is indefinite. It is unclear to the Examiner whether Applicant intends for the extension limiting means to be the same or different from the means for limiting axial extension recited in claim 1 from which claims 10 and 11 depend.

Re: claims 14 and 15. The phrases "the flange" and "the other flange" first recited in line 3 of claim 14 are indefinite since they lack proper antecedent basis.

Re: claims 32 and 33. The phrase "means for limiting axial extension" in line 2 is indefinite since it is unclear to the Examiner whether the means in claim 32 is intended to be the same or different from that which is recited in claim 1. If Applicant intends to refer back to the previously recited means, Examiner recommends the use of such phrases as --said means-- or --the means--. A similar issue exists in claim 33.

The remaining claims are rejected due to their dependency from an indefinite claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 7, 8, 10-15, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art figure 1 (APA) in view of US Patent 2695167 to Ramos et al.

Re: claims 1, 2, 7, 8, 10-13, 32, and 33. APA shows in figures 1 and 2 a vibration damper 0 for inhibiting transfer of vibration to an apparatus 7 during the evacuation thereof by a pump 8, the damper comprising a bellows arrangement 4 for isolating from the ambient atmosphere, fluid drawn from the apparatus by the pump, and means 5 for limiting axial compression of the bellows arrangement during use of the damper and means 6a,6b or 6a,2,6b,3 for limiting axial extension of the bellows arrangement that simultaneously permits axial compression of the same.

APA is silent with regards to the damper being axially precompressed by the means for limiting axial extension of the bellows arrangement.

Ramos et al. teach in figure 1 and in col. 2 lines 2-6 an arrangement 6 being axially precompressed by a means for limiting axial extension 2, 28, 36.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the means for limiting axial extension of the bellows arrangement to provide precompression of the bellows arrangement, in view of

the teachings of Ramos et al., in order to provide a means of achieving a certain level of stiffness depending on the particular application.

Re: claim 3. In an alternate interpretation the pump of APA, as modified, may be considered as including elements 3, 8, and 10 such that one end or the bottom end of the bellows arrangement 4 is directly attached to the pump as shown in APA figure 1.

Re: claim 4. APA, as modified, teach in figures 1 and 2 of APA the limitation wherein one end of the bellows arrangement 4 is directly attached to a flange 3 integral with the housing of the pump 8

Re: claims 5 and 7. See flange 2 in figure 1 of APA.

Re: claims 14 and 15. APA, as modified, teach in figure 1 the limitation wherein the means for limiting axial extension comprises an axially extending member 6a attached to one of the flanges 2 and engaging the other flange 3,6b to pre-compress the damper.

5. Claims 16-23, 25, and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art figure 1 (APA) in view of US Patent 2695167 to Ramos et al. as applied to claim 1 above, and further in view of US Patent 2578773 to Arthur.

Re: claims 16 and 18. APA, as modified, is silent with regards to the resistive means being arranged under tension as recited.

Arthur teaches in figure 1 the use of a means for limiting axial compression of a bellows arrangement A comprising resistive means 28 arranged under tension as recited.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the means for limiting axial compression of APA, as modified, to have included a resistive means arranged under tension as recited, as taught by Arthur, in order to provide an alternate means of resisting axial compression. It is noted that such an arrangement allows adjustment of the resistive means to achieve different levels of resistance depending on the particular application. With regards to claim 18 also see the rejection of claim 1 for explanation of elements.

Re: claims 17, 19, 20, 21, 22, 23, 34, 35, 36, 37, and 38. APA, as modified, includes the bellows arrangement 4 extending about an axis, but is silent with regards to the resistive means being arranged about or around the axis since there is a lack of plurality of said resistive means.

APA figure 1 teaches the use of a resistive means 5 arranged about the axis and in *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the damper of APA, as modified, to have included a plurality of tension springs arranged about the axis, in view of the teachings of APA figure 1 and the cited case law, in order to uniformly apply the resistive force to damper.

Re: claim 25. See the inclined portions of the coils of Arthur, as broadly recited.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art figure 1 (APA) in view of US Patent 2695167 to Ramos et al. and Arthur as applied to claim 23 above, and further in view of US Patent 5799456 to Shriener et al. APA, as modified, is silent with regards to the resistive element comprising a metal coil tension spring.

Shriener et al. teach in figure 12 at elements 260 and 270 as well as in col. 10 lines 7-8 the tension springs being metal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resistive elements of APA, as modified, to have included a metal coil tension spring, as taught by Shriener et al., in order to provide springs with sufficient structural integrity.

7. Claims 16-23, 25, 26, 27, 29, and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art figure 1 (APA) in view of US Patent 2695167 to Ramos et al. as applied to claim 1 above, and further in view of EP-1293682 (EP'682).

Re: claims 16-22, 26, 27, 29, and 34-37. AP, as modified, is silent with regards to the resistive means being arranged under tension as recited.

EP'682 teaches in figure 6b the use of a means for limiting axial compression of a bellows arrangement 107, 108 comprising resistive means 104, 105 arranged under tension in such a way that when the damper is subjected to an external axial force or the axial component of the bending force tending to compress the bellows arrangement

or particularly portion 108 of the bellows arrangement, the resistive means or particularly portion 104 of the resistive means is subjected to a tensile force.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the means for limiting axial compression of APA, as modified, to have included a resistive means arranged under tension as recited, as taught by EP'682, in order to provide an alternate means of resisting axial compression particularly in a horizontally mounted pump-structure arrangement. With regards to claim 18 also see the rejection of claim 1 for explanation of elements.

Re: claims 23 and 38. In *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

Re: claim 25. See the inclined portions of EP'682 shown in the area at the end of the lead line of number 104, as broadly recited.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art figure 1 (APA) in view of US Patent 2695167 to Ramos et al. and EP'682 as applied to claim 23 above, and further in view of US Patent 5799456 to Shriener et al.

APA, as modified, is silent with regards to the resistive element comprising a metal coil tension spring.

Shriener et al. teach in figure 12 at elements 260 and 270 as well as in col. 10 lines 7-8 the tension springs being metal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resistive elements of APA, as modified, to

have included a metal coil tension spring, as taught by Shriener et al., in order to provide an alternate means of providing resistance.

Allowable Subject Matter

9. Claims 28 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELODY BURCH whose telephone number is (571)272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mmb
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